

## Experimental Climate Monitoring and Prediction

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26 June 2014

### FECT BLOG

Past reports available at  
<http://fectsl.blogspot.com/> and

<http://fectsl.wordpress.com/>

### FECT WEBSITES

<http://www.climate.lk> and  
<http://www.tropicalclimate.org/>

19 June, 2014

### PACIFIC SEAS STATE

During May through mid-June the observed ENSO conditions remained near the borderline of a weak El Niño condition in the ocean, but the atmosphere so far has shown little involvement. Most of the ENSO prediction models indicate more warming coming in the months ahead, leading to sustained El Niño conditions by the middle of northern summer.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

Seas around Sri Lanka showed 1 °C higher than average sea surface temperature.

### MJO STATE

MJO is at phase 7 in the Western Pacific and is weak. Therefore this shall not have an impact on the rainfall in Sri Lanka

### Highlights

#### Monitoring and Predictions:

South western region of Sri Lanka continue to receive rainfall during the last week. This condition is expected to continue in the next two weeks.

### Summary

#### Monitoring

**Weekly Monitoring:** On the 18<sup>th</sup> of June rainfall up to 40 mm was observed in Galle and Matara districts and apart from that some rainfall was observed in Kegalle district. On the next day rainfall diminished in Galle and Matara districts while the rainfall intensity increased in Kegalle district. From the 19<sup>th</sup> onwards until the 21<sup>st</sup> light rainfall was observed in South western to central Sri Lanka. No rainfall was observed on the 22<sup>nd</sup> and 23<sup>rd</sup>. During 18<sup>th</sup>- 24<sup>th</sup>, no rainfall was observed in anywhere else in the country. Sea towards South west of the country received rainfall throughout this week.

**Monthly Monitoring:** The average rainfall received by the entire country was less than 8 mm/day. The highest observed rainfall was in the Northern parts of Ampara and Badulla districts. Except for these regions and the Anuradhapura district less than average rainfall was observed all over Sri Lanka. During the first ten days of June, very high rainfall averaging up to 20 mm/day was observed in south western regions of Sri Lanka.

#### Predictions

**14 day prediction:** More rainfall is expected (up to 55 mm) during the fortnight starting from 27<sup>th</sup> June 2014.

**IMD WRF & IRI Model Forecast:** According to the IMD WRF model and IRI forecasts South Western to western regions of the country shall continue to receive rainfall. No heavy rainfall events are expected during 26<sup>th</sup> June to 1<sup>st</sup> July 2014.

**Seasonal Prediction:** As per IRI Multi Model Probability Forecast issued on June 2014; for July 2014 to September 2014, the precipitation shall be climatological while there is a 70% chance that temperature shall be above normal.

### Inside this Issue

#### 1. Monitoring

- Daily Satellite Derived Rain fall Estimates
- Monthly Rain fall Estimates
- Decadal (10 Day) Satellite Derived Rainfall Estimates
- Weekly Average SST Anomalies

#### 2. Predictions

- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- Seasonal Predictions from IRI

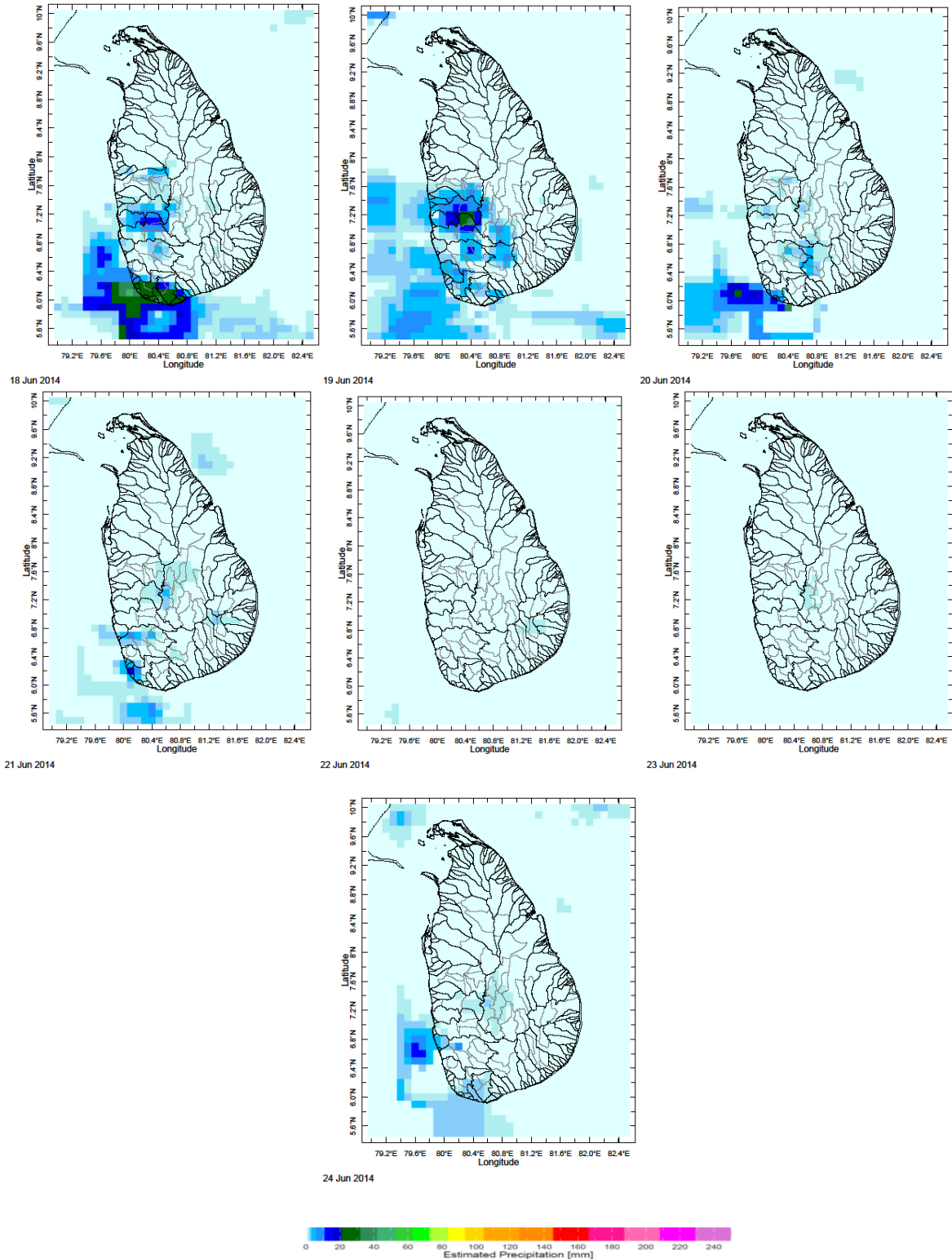
<sup>1</sup> International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

<sup>2</sup> These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

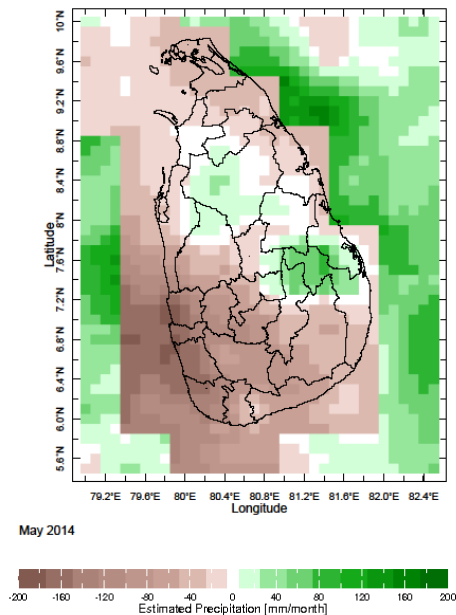
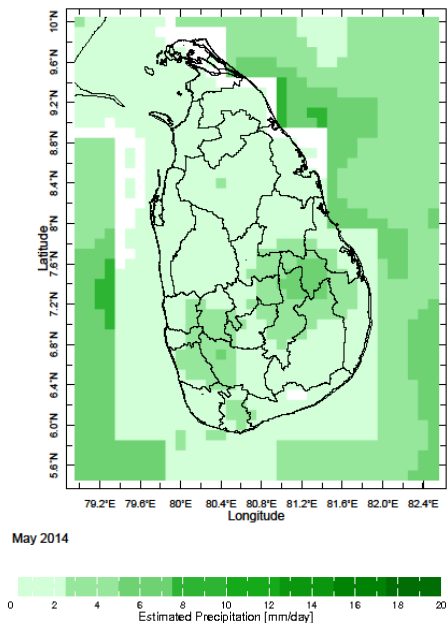
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

## 1. Monitoring

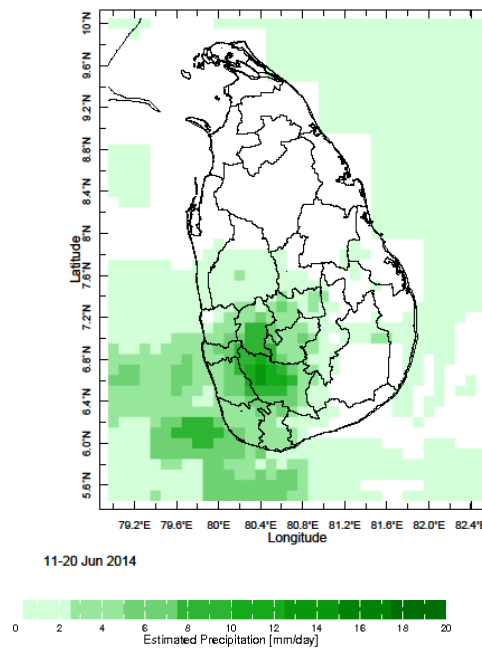
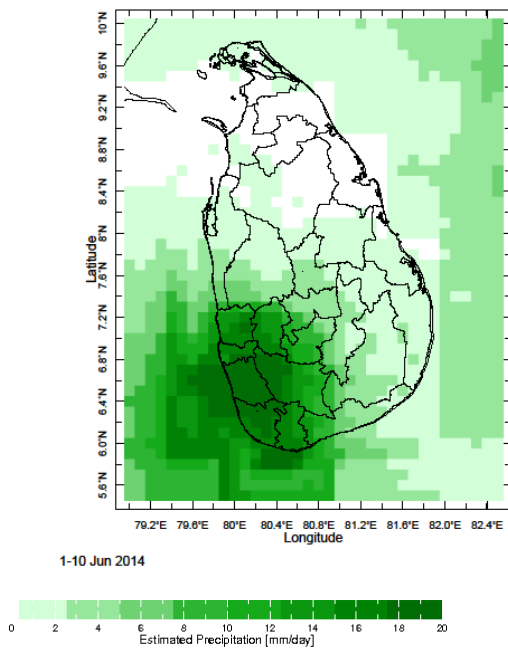
### a) Daily Satellite Derived Rainfall Estimate Maps: 18<sup>th</sup> – 24<sup>th</sup> June 2014 (Left-Right, Top-Bottom)



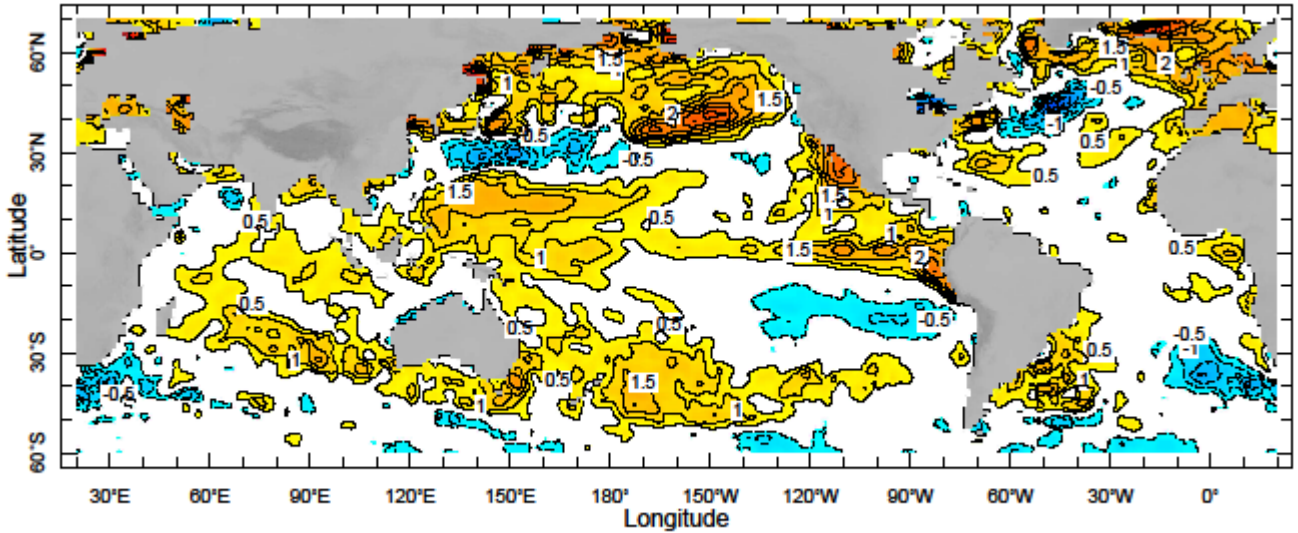
**b) Monthly Satellite Derived Rainfall Estimates for May 2014 (Average – Left and Anomaly - Right)**



**c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 & 11-20 June, 2014)**



**d) Weekly Average SST Anomalies**



15-21 Jun 2014



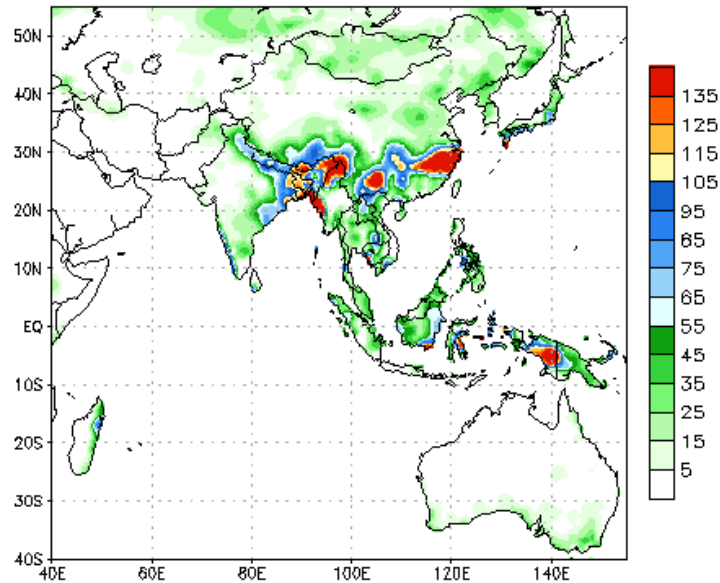
**Weekly Average SST Anomalies (°C), 15<sup>th</sup>-21<sup>st</sup> June, 2014**

Data Source: NCEP Environmental monitoring center (Climatology 1971-2000)

## 2. Predictions

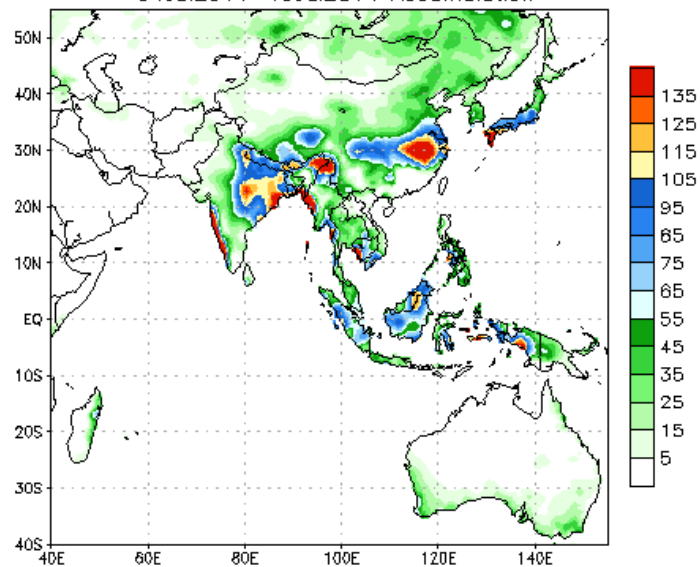
### a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)  
from: 27Jun2014  
27Jun2014-03Jul2014 Accumulation



Bias correction based on last 30-day forecast error

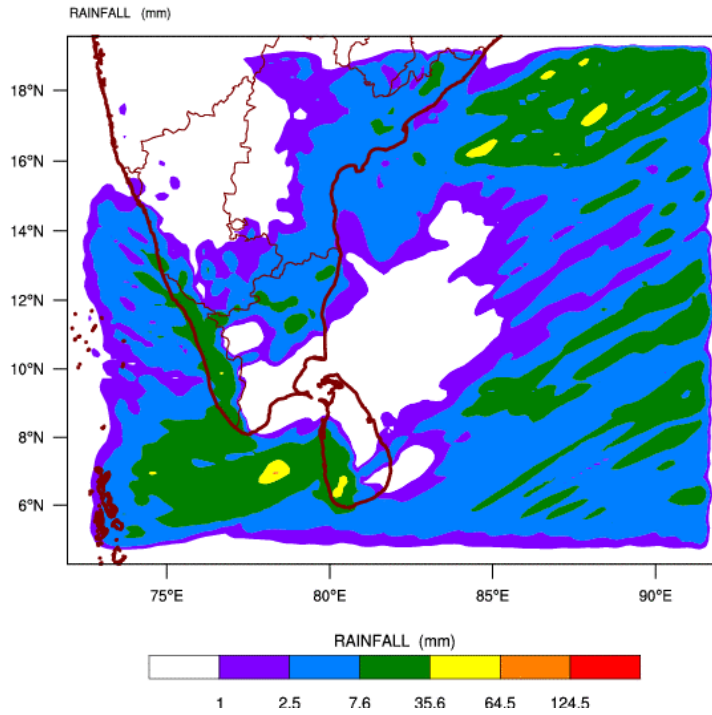
NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)  
from: 27Jun2014  
04Jul2014-10Jul2014 Accumulation



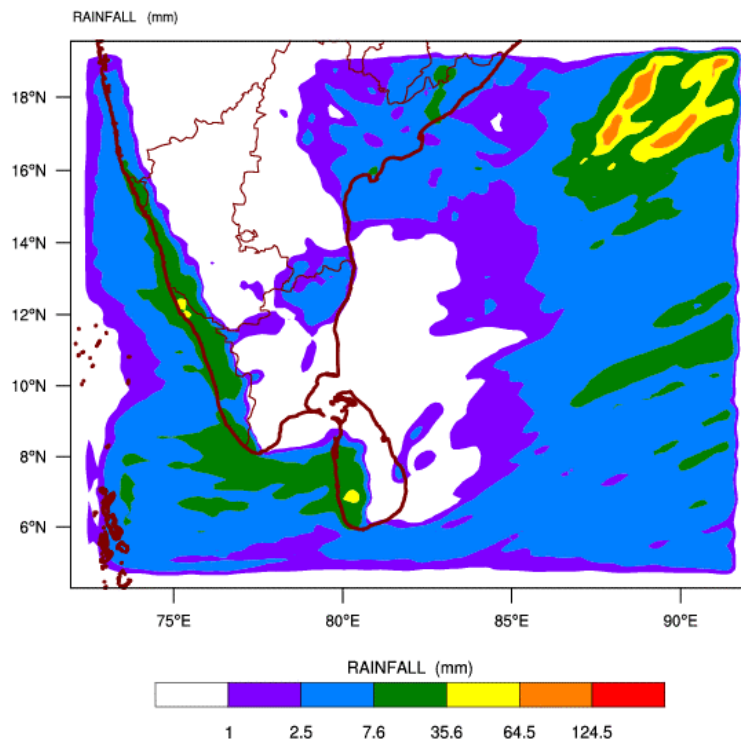
Bias correction based on last 30-day forecast error

**b) WRF model forecast from Regional Meteorological Center, Chennai of Indian Meteorological Department**

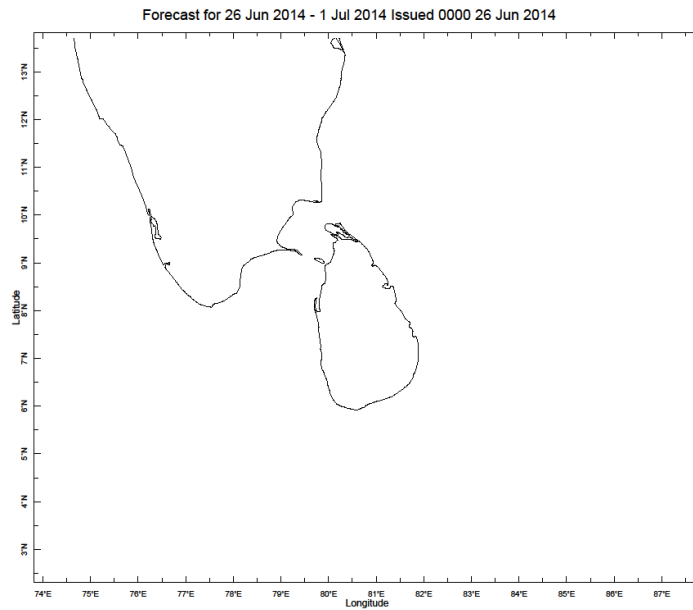
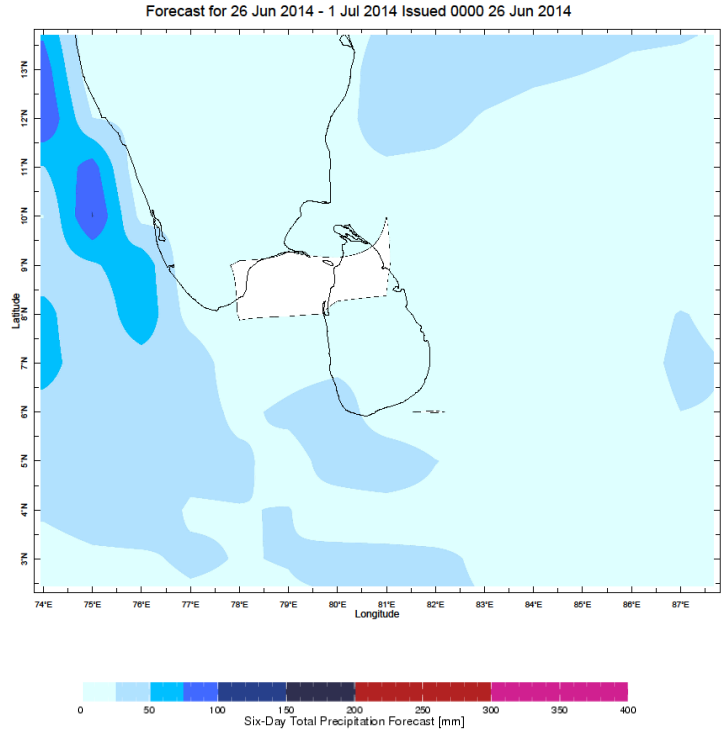
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\  
based on 00 UTC of 27-06-2014 valid for 03 UTC of 29-06-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\  
based on 00 UTC of 27-06-2014 valid for 03 UTC of 30-06-2014



**c) Weekly Precipitation Forecast for 26<sup>th</sup> June-1<sup>st</sup> July 2014 (Precipitation Forecast in Context Map Tool, IRI)**



Heavy Rainfall

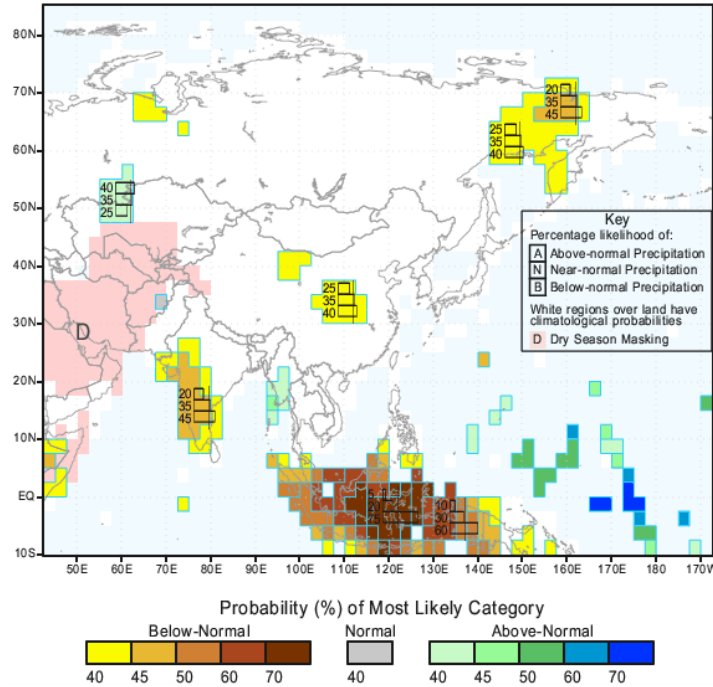
Very Heavy Rainfall

Extremely Heavy Rainfall



*e) Seasonal Rainfall and Temperature Predictions from IRI*

IRI Multi-Model Probability Forecast for Precipitation  
for July-August-September 2014, Issued June 2014



IRI Multi-Model Probability Forecast for Temperature  
for July-August-September 2014, Issued June 2014

